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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,334	04/16/2004	Makoto Shonohara	D-1588	7902

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EXAMINER

TANG, MINH NHUT

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/825,334

Applicant(s)

SHONOHARA, MAKOTO

Examiner

Minh N. Tang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-8 are objected to because of the following informalities:

a/ in claim 1, lines 14-17, it appears that the limitation "said defect analyzing means analyzing the defective site based on the change in the waveform of the secondary electron signal obtained from the electron beam irradiated by the irradiating means and the driving state of the TFT array" is a duplicated recitation since the limitations in lines 10-13 and lines 14-17, respectively, are so close in content that they both cover the same thing, despite a slight difference in wording.

b/ claims 2-8 are objected since they depend on objected base claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Toro-Lira (U.S.P. 5,982,190).

As to claim 1, Toro-Lira discloses, in Fig. 5, a TFT array inspection apparatus for inspecting a TFT array, comprising: irradiating means (71) for irradiating an electron beam (59) on the TFT array including a specific pixel and a specific site (79) on a TFT substrate (61) to obtain a secondary electron signal (63), scanning means (scanning,

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see column 4, lines 45-50) for scanning (indicated by arrows S) the electron beam (59) on the TFT substrate (61) to obtain scanning signal (i.e., pixel voltage), defect detecting means (66) for detecting defective site (i.e., site corresponding to pixel 79) on the TFT substrate (61) according to the scanning signal (pixel voltage), and defect analyzing means (74) for analyzing at least one of a type and an extent of a defect (short circuit defects) in the defective site (site corresponding to pixel 79) based on a change in a waveform (see Fig. 6B) of the secondary electron signal (63) and a driving state of the TFT array, said defect analyzing means (74) analyzing the defective site based on the change in the waveform of the secondary electron signal (63) obtained from the electron beam (59) irradiated by the irradiating means (71) and the driving state of the TFT array.

As to claim 2, Toro-Lira discloses in Fig. 5, said defect analyzing means (74) analyzes the defective site (site corresponding to pixel 79) in detail (see Fig. 6B) after the defect detecting means (66) finds the defective site (site corresponding to pixel 79) by scanning the entire TFT array.

As to claim 3, Toro-Lira discloses in Fig. 7, switching means (62) for switching operations between the scanning means (scanning) and the irradiating means (71) and operations between the defect detecting means (66) and the defect analyzing means (74), said switching means (62) synchronously switching between the scanning means (scanning) and the irradiating means (71) and between the defect detecting means (66) and the defect analyzing means (74).

As to claim 4, Toro-Lira discloses in Fig. 5, said defect detecting means (66) detects the defective site (site corresponding to pixel 79) including a defective region having the defective pixel (79) on the TFT substrate (61).

As to claim 5, Toro-Lira discloses in Fig. 5, said irradiating means (71) is an electron gun for irradiating the electron beam (59) on the TFT substrate (61) so that a secondary electron (63) is discharged from the TFT substrate (61).

As to claim 6, Toro-Lira discloses in Fig. 5, detecting means (also called 66) located above the TFT substrate (61) for detecting the secondary electron (63) discharged from the TFT substrate (61) to obtain the secondary electron signal (i.e., signal proportional to the voltage of the emitting substrate 61), and signal generating means (also called 74) electrically connected to the TFT substrate (61) for applying an inspection signal (activation signals applied via lines 78) to the TFT substrate (61), said defect analyzing means (74) being electrically connected to the detecting means (66) and the signal generating means (74) for analyzing the defective site based the secondary electron signal (signal proportional to the voltage of the emitting substrate 61) and the inspection signal (activation signals).

As to claim 7, Toro-Lira discloses in Fig. 5, a stage (not shown) for placing the TFT substrate (61) capable of moving the TFT substrate (61) horizontally.

Allowable Subject Matter

4. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach, in combination with other limitations, a memory electrically connected to the defect detecting means and the defect analyzing means so that the defective site on the TFT substrate is memorized in the memory when the defect detecting means detects the defective site, and the defective site in the memory is provided to eject electron beam from the irradiating means when the defect analyzing means is operated.

Response to Arguments

6. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh N. Tang whose telephone number is (571) 272-1971. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha T. Nguyen can be reached on (571) 272-1678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


MINH NHUT TANG
PRIMARY EXAMINER

6/27/06